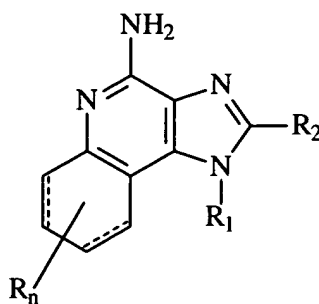


WHAT IS CLAIMED IS:

1. A compound of the formula (I):



(I)

wherein

R_1 is -alkyl-NR₃- SO₂ -X-R₄ or -alkenyl-NR₃- SO₂ -X-R₄;

X is a bond or -NR₃-;

R_4 is aryl, heteroaryl, heterocyclyl, alkyl or alkenyl, each of which may be unsubstituted or substituted by one or more substituents selected from the group consisting of:

- alkyl;
- alkenyl;
- aryl;
- heteroaryl;
- heterocyclyl;
- substituted cycloalkyl;
- substituted aryl;
- substituted heteroaryl;
- substituted heterocyclyl;
- O-alkyl;
- O-(alkyl)₀₋₁-aryl;
- O-(alkyl)₀₋₁-substituted aryl;

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- O-(alkyl)₀₋₁-heteroaryl;
 - O-(alkyl)₀₋₁-substituted heteroaryl;
 - O-(alkyl)₀₋₁-heterocyclyl;
 - O-(alkyl)₀₋₁-substituted heterocyclyl;
 - COOH;
 - CO-O-alkyl;
 - CO-alkyl;
 - S(O)₀₋₂-alkyl;
 - S(O)₀₋₂-(alkyl)₀₋₁-aryl;

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 - S(O)₀₋₂-(alkyl)₀₋₁-substituted aryl;
 - S(O)₀₋₂-(alkyl)₀₋₁-heteroaryl;
 - S(O)₀₋₂-(alkyl)₀₋₁-substituted heteroaryl;
 - S(O)₀₋₂-(alkyl)₀₋₁-heterocyclyl;
 - S(O)₀₋₂-(alkyl)₀₋₁-substituted heterocyclyl;

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 - (alkyl)₀₋₁-NR₃R₃;
 - (alkyl)₀₋₁-NR₃-CO-O-alkyl;
 - (alkyl)₀₋₁-NR₃-CO-alkyl;
 - (alkyl)₀₋₁-NR₃-CO-aryl;
 - (alkyl)₀₋₁-NR₃-CO-substituted aryl;

20

 - (alkyl)₀₋₁-NR₃-CO-heteroaryl;
 - (alkyl)₀₋₁-NR₃-CO-substituted heteroaryl;
 - N₃;
 - halogen;
 - haloalkyl;

25

 - haloalkoxy;
 - CO-haloalkyl;
 - CO-haloalkoxy;
 - NO₂;
 - CN;

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 - OH;
 - SH; and in the case of alkyl, alkenyl, or heterocyclyl, oxo;

R₂ is selected from the group consisting of:

- hydrogen;
- alkyl;
- alkenyl;
- aryl;
- substituted aryl;
- heteroaryl;
- substituted heteroaryl;
- alkyl-alkyl;
- alkyl-O-alkenyl; and
- alkyl or alkenyl substituted by one or more substituents selected from the

group consisting of:

- OH;
- halogen;
- N(R₃)₂;
- CO-N(R₃)₂;
- CO-C₁₋₁₀ alkyl;
- CO-O-C₁₋₁₀ alkyl;
- N₃;
- aryl;
- substituted aryl;
- heteroaryl;
- substituted heteroaryl;
- heterocyclyl;
- substituted heterocyclyl;
- CO-aryl;
- CO-(substituted aryl);
- CO-heteroaryl; and
- CO-(substituted heteroaryl);

each **R₃** is independently selected from the group consisting of hydrogen and C₁₋₁₀

alkyl;

R₅ is selected from the group consisting of hydrogen and C₁₋₁₀ alkyl, or **R₄** and **R₅** can combine to form a 3 to 7 membered heterocyclic or substituted heterocyclic ring;

n is 0 to 4 and each **R** present is independently selected from the group consisting of C₁₋₁₀ alkyl, C₁₋₁₀ alkoxy, halogen and trifluoromethyl, or a pharmaceutically acceptable salt thereof.

2. A compound of claim 1 wherein **X** is a bond.

3. A compound of claim 2 wherein **n** is 0.

4. A compound of claim 2 wherein each **R₃** is hydrogen.

5. A compound of claim 2 wherein **R₁** is $-(CH_2)_{2-4}-NR_3-SO_2-R_4$.

6. A compound of claim 2 wherein **R₄** is selected from the group consisting of alkyl, aryl and heteroaryl that may be unsubstituted or substituted by one or more substituents selected from the group consisting of:

- alkyl;
- alkenyl;
- aryl;
- heteroaryl;
- heterocyclyl;
- substituted aryl;
- substituted heteroaryl;
- substituted heterocyclyl;
- O-alkyl;
- O-(alkyl)₀₋₁-aryl;
- O-(alkyl)₀₋₁-substituted aryl;
- O-(alkyl)₀₋₁-heteroaryl;
- O-(alkyl)₀₋₁-substituted heteroaryl;
- O-(alkyl)₀₋₁-heterocyclyl;
- O-(alkyl)₀₋₁-substituted heterocyclyl;

- COOH;
 -CO-O-alkyl;
 -CO-alkyl;
 -S(O)₀₋₂-alkyl;
 5 -S(O)₀₋₂-(alkyl)₀₋₁-aryl;
 -S(O)₀₋₂-(alkyl)₀₋₁-substituted aryl;
 -S(O)₀₋₂-(alkyl)₀₋₁-heteroaryl;
 -S(O)₀₋₂-(alkyl)₀₋₁-substituted heteroaryl;
 -S(O)₀₋₂-(alkyl)₀₋₁-heterocyclyl;
 10 -S(O)₀₋₂-(alkyl)₀₋₁-substituted heterocyclyl;
 -(alkyl)₀₋₁-NR₃R₃;
 -(alkyl)₀₋₁-NR₃-CO-O-alkyl;
 -(alkyl)₀₋₁-NR₃-CO-alkyl;
 -(alkyl)₀₋₁-NR₃-CO-aryl;
 15 -(alkyl)₀₋₁-NR₃-CO-substituted aryl;
 -(alkyl)₀₋₁-NR₃-CO-heteroaryl;
 -(alkyl)₀₋₁-NR₃-CO-substituted heteroaryl;
 -N₃;
 -halogen;
 20 -haloalkyl;
 -haloalkoxy;
 -CO-haloalkoxy;
 -NO₂;
 -CN;
 25 -OH;
 -SH; and in the case of alkyl, oxo.

7. A compound of claim 2 wherein R₂ is selected from the group consisting of
 hydrogen; alkyl; alkyl-O-alkyl; (alkyl)₀₋₁ aryl, (alkyl)₀₋₁-(substituted aryl); (alkyl)₀₋₁-
 30 heteroaryl; and (alkyl)₀₋₁-(substituted heteroaryl).

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8. A compound of claim 2 wherein R_2 is selected from the group consisting of hydrogen, C_{1-4} alkyl, and C_{1-4} alkyl-O- C_{1-4} alkyl.
9. A compound of claim 2 wherein the dashed bonds are absent.
10. A compound of claim 1 wherein X is $-NR_5-$.
11. A compound of claim 10 wherein n is 0.
12. A compound of claim 10 wherein R_1 is $-(CH_2)_{2-4}-NR_3-SO_2-NR_5-R_4$.
13. A compound of claim 10 wherein R_2 is selected from the group consisting of hydrogen; alkyl; alkyl-O-alkyl; (alkyl)₀₋₁ aryl, (alkyl)₀₋₁-(substituted aryl); (alkyl)₀₋₁-heteroaryl; and (alkyl)₀₋₁-(substituted heteroaryl).
14. A compound of claim 10 wherein R_2 is selected from the group consisting of hydrogen, C_{1-4} alkyl, and C_{1-4} alkyl-O- C_{1-4} alkyl.
15. A compound of claim 10 wherein R_4 and R_5 join to form a 3 to 7 membered heterocyclic or substituted heterocyclic ring.
16. A compound of claim 10 wherein R_4 and R_5 join to form a substituted or unsubstituted pyrrolidine, morpholine, thiomorpholine, piperidine, or piperazine ring.
17. A compound of claim 16 wherein R_3 is hydrogen.
18. A compound of claim 15 wherein R_2 is selected from the group consisting of hydrogen; alkyl; alkyl-O-alkyl; (alkyl)₀₋₁ aryl, (alkyl)₀₋₁-(substituted aryl); (alkyl)₀₋₁-heteroaryl; and (alkyl)₀₋₁-(substituted heteroaryl).
19. A compound of claim 16 wherein R_2 is selected from the group consisting of hydrogen, C_{1-4} alkyl, and C_{1-4} alkyl-O- C_{1-4} alkyl.

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20. A compound of claim 10 wherein R₄ and R₅ are alkyl.
21. A compound of claim 20 wherein R₃ is hydrogen.
- 5 22. A compound of claim 20 wherein R₂ is selected from the group consisting of hydrogen; alkyl; alkyl-O-alkyl; (alkyl)₀₋₁ aryl, (alkyl)₀₋₁-(substituted aryl); (alkyl)₀₋₁-heteroaryl; and (alkyl)₀₋₁-(substituted heteroaryl).
- 10 23. A compound of claim 10 wherein R₃ is hydrogen.
24. A compound selected from the group consisting of:
N²-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-2-thiophenesulfonamide;
15 N¹-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-1-benzenesulfonamide;
N⁸-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-8-quinolinesulfonamide;
N¹-[2-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)ethyl]-5-(dimethylamino)-
20 1-naphthalenesulfonamide;
N-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]methanesulfonamide;
N¹-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-1-benzenesulfonamide;
25 N⁸-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-8-quinolinesulfonamide;
N²-[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-2-thiophenesulfonamide;
N²-[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-2-
30 thiophenesulfonamide;
N¹-[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-1-benzenesulfonamide;

- 5 N^8 -[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-8-quinolinesulfonamide;
- N^1 -[4-(4-amino-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-5-(dimethylamino)-1-naphthalenesulfonamide;
- 10 N^1 -[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-4-fluoro-1-benzenesulfonamide;
- N^1 -[4-(4-amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-3-fluoro-1-benzenesulfonamide;
- N -{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}methanesulfonamide;
- 15 N^2 -{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}-2-thiophenesulfonamide;
- N^1 -{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}-5-(dimethylamino)-1-naphthalenesulfonamide;
- 20 N -{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}methanesulfonamide;
- N^2 -{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-2-thiophenesulfonamide;
- N^1 -{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-5-(dimethylamino)-1-naphthalenesulfonamide;
- 25 N^1 -{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-4-fluoro-1-benzenesulfonamide;
- N^1 -{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-3-fluoro-1-benzenesulfonamide;
- 30 N^1 -{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-1-benzenesulfonamide;
- N^8 -{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-8-quinolinesulfonamide;
- N^2 -{4-[4-amino-2-(4-methoxybenzyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-2-thiophenesulfonamide;
- N -[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]methanesulfonamide;

N²-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-2-thiophenesulfonamide;

N¹-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-5-(dimethylamino)-1-naphthalenesulfonamide;

5 N¹-{4-[4-amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-1-benzenesulfonamide;

N¹-{4-[4-amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-5-(dimethylamino)-1-naphthalenesulfonamide;

10 N²-{2-[4-amino-2-(ethoxymethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]ethyl}-*N,N*-dimethylsulfamide;

N²-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-*N,N*-dimethylsulfamide;

N²-{4-[4-amino-2-(4-methoxybenzyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-*N,N*-dimethylsulfamide;

15 N²-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-*N,N*-dimethylsulfamide;

N²-{4-[4-amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-*N,N*-dimethylsulfamide;

20 N⁴-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-4-thiomorpholinesulfonamide;

N¹-{4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-1-pyrrolidinesulfonamide;

N¹-[4-(4-amino-2-butyl-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-4-fluoro-1-benzenesulfonamide;

25 N-[4-(4-Amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]methanesulfonamide; and

N-[4-[4-amino-2-(2-methoxyethyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl]phenylmethanesulfonamide.

30 25. A compound selected from the group consisting of:

N¹-[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-

- 5-(dimethylamino)-1-naphthalenesulfonamide;
 N^1 -[4-(4-Amino-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 5-(dimethylamino)-1-naphthalenesulfonamide;
 N^2 -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 2-thiophenesulfonamide;
 5
 N -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 phenylmethanesulfonamide;
 N^1 -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 1-benzenesulfonamide;
 10
 N -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]
 Methanesulfonamide;
 N^1 -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 3-nitro-1-benzenesulfonamide;
 N^1 -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 15
 3-amino-1-benzenesulfonamide;
 N^1 -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 4-nitro-1-benzenesulfonamide;
 N^1 -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 4-amino-1-benzenesulfonamide;
 20
 N^5 -[4-(4-Amino-2-butyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 5-isoquinolinesulfonamide
 N -[4-(4-Amino-2-(4-methoxybenzyl)-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 methanesulfonamide;
 N^1 -[4-(4-Amino-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-1-butanesulfonamide;
 25
 N^1 -{4-[4-Amino-2-(2-methoxyethyl)-6,7,8,9-tetrahydro-
 1*H*-imidazo[4,5-*c*]quinolin-1-yl]butyl}-4-fluoro-1-benzenesulfonamide;
 N^1 -[4-(4-Amino-2-phenyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]-
 4-fluoro-1-benzenesulfonamide; and
 N -[4-(4-Amino-2-phenyl-1*H*-imidazo[4,5-*c*]quinolin-1-yl)butyl]
 30
 methanesulfonamide.

26. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1 and a pharmaceutically acceptable carrier.

5 27. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 2 and a pharmaceutically acceptable carrier.

28. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 10 and a pharmaceutically acceptable carrier.

10 29. A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound of claim 1 to the animal.

30. A method of treating a viral disease in an animal comprising administering an effective amount of a compound of claim 1 to the animal.

15 31. A method of treating a neoplastic disease in an animal comprising administering an effective amount of a compound of claim 1 to the animal.

20 32. A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound of claim 2 to the animal.

33. A method of treating a viral disease in an animal comprising administering an effective amount of a compound of claim 2 to the animal.

25 34. A method of treating a neoplastic disease in an animal comprising administering an effective amount of a compound of claim 2 to the animal.

35. A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound of claim 10 to the animal.

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Subj 5

~~creating a
compound
creating a
compound~~

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